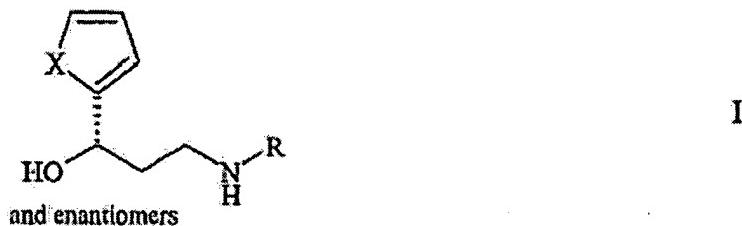


Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

Listing of the Claims:

Claim 1 (Currently Amended): A process for the preparation of a chiral compound of formula:



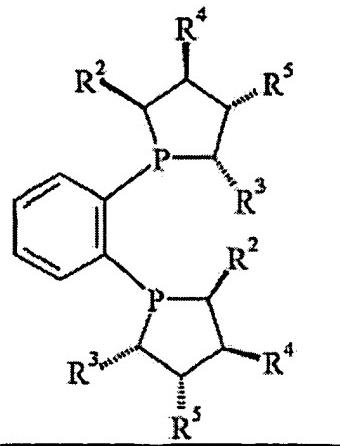
wherein X represents S or O, and R represents hydrogen, C₁₋₆-alkyl, C₃₋₈-cycloalkyl, aryl or aralkyl, each aryl or aralkyl being optionally further substituted with one or more C₁₋₄-alkyl groups and/or halogen atoms,

the process comprises the asymmetric hydrogenation of a compound of formula:



wherein X and R are as defined above,

in the presence of a transition metal complex of a chiral bidentate phosphine ligand, that is stabilizing, and, ~~optionally, a base,~~, the chiral bidentate phosphine ligand is a compound of formula:



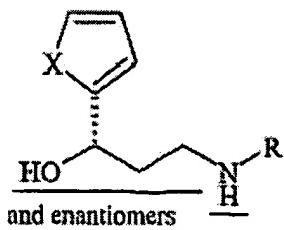
III,

and enantiomers

wherein R⁶ and R⁷ are methoxy or ethoxy or R⁴ and R⁵ together form an isopropylidenedioxy group, and optionally, a base.

Claim 2 (Cancelled).

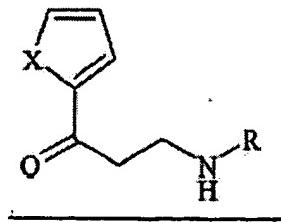
Claim 3 (Currently Amended): ~~The process of claim 1, wherein~~ A process for the preparation of a chiral compound of formula:



I

wherein X represents S or O, and R represents hydrogen, C₁₋₆-alkyl, C₃₋₈-cycloalkyl, aryl or aralkyl, each aryl or aralkyl being optionally further substituted with one or more C₁₋₄-alkyl groups and/ or atoms.

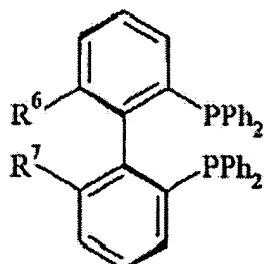
the process comprises the asymmetric hydrogenation of a compound of formula:



II,

wherein X and R are as defined above,

in the presence of a transition metal complex of a chiral bidentate phosphine ligand, that
is stabilizing, and, optionally, a base. the chiral bidentate phosphine ligand is a
 compound of formula:

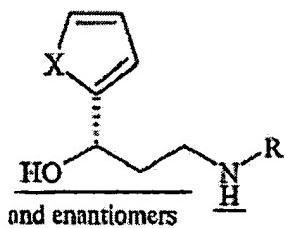


IV,

and enantiomers

wherein R⁶ and R⁷ are methoxy or ethoxy or wherein R⁶ and R⁷ together form a 1,3-propylenedioxy or a 1,4-butylenedioxy group, and
 optionally, a base.

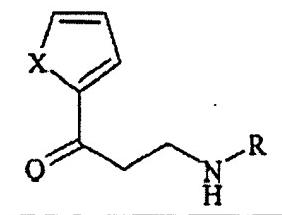
Claim 4 (Currently Amended): The process of claim 1, wherein A process for the
preparation of a chiral compound of formula:



I

wherein X represents S or O, and R represents hydrogen, C₁₋₆-alkyl, C₃₋₈-cycloalkyl, aryl or aralkyl, each aryl or aralkyl being optionally further substituted with one or more C₁₋₄-alkyl groups and/or halogen atoms,

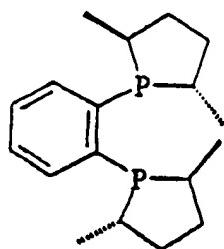
the process comprises the asymmetric hydrogenation of a compound of formula:



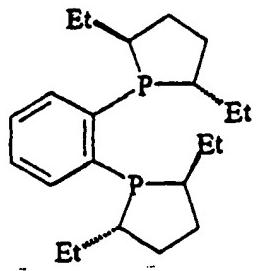
II,

wherein X and R are as defined above,

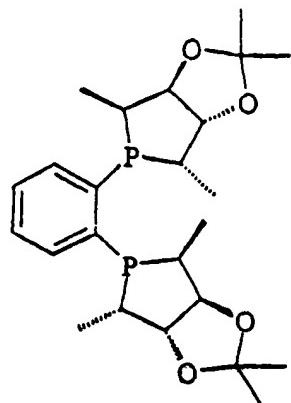
in the presence of a transition metal complex of a chiral bidentate phosphine ligand, that is stabilizing, and, optionally, a base. the chiral bidentate phosphine ligand is selected from the group consisting of (S,S)-Me-DuPhos of formula:



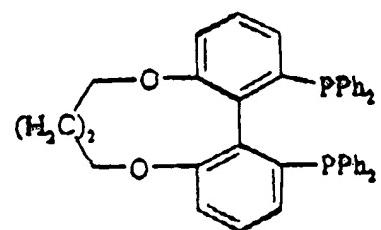
(S,S)-Et-DuPhos of formula:



(S,S,S,S)-Me-KetalPhos of formula:



and (S)-C4-TunaPhos of formula:



and, optionally, a base.

Claim 5 (Previously Presented): The process of claim 4, wherein the transition metal is Ru or Rh.

Claim 6 (Previously Presented): The process of claim 5, wherein the transition metal complex of the chiral bidentate phosphine ligand comprises at least one further stabilizing ligand that is selected from the group consisting of alkene and arene.

Claim 7 (Previously Presented): The process of claim 6, wherein the transition metal complex of the chiral bidentate phosphine ligand comprises at least one further stabilizing ligand that is selected from the group consisting of 1,5-cyclooctadiene and p-cymene.

Claim 8 (Previously Presented): The process of claim 7, wherein the counterion of the transition metal complex of the chiral bidentate phosphine ligand is selected from the group consisting of Cl^- , BF_4^- , AsF_6^- ; SbF_6^- and triflate.

Claim 9 (Previously Presented): The process of claim 8, wherein the catalyst is prepared by mixing a transition metal complex of the formula $[\text{Rh}(\text{cod})_2]^+\text{BF}_4^-$ with a chiral bidentate phosphine selected from the group consisting of (S,S)-Me-DuPhos, (S,S)-Et-DuPhos and (S,S,S,S)-Me-KetalPhos.

Claim 10 (Previously Presented): The process of claim 9, wherein the base is a hydroxide, a methanolate or an ethanolate of lithium, sodium or potassium or a mixture of said bases.

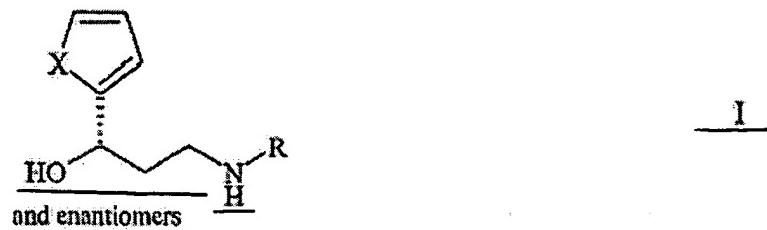
Claim 11 (Previously Presented): The process of claim 10, wherein the hydrogen pressure during the reaction is in the range of 1 to 60 bar.

Claim 12 (Cancelled).

Claim 13 (Cancelled).

Claim 14 (Cancelled).

Claim 15 (Currently Amended): ~~The process of claim 14, wherein A process for the preparation of a chiral compound of formula:~~



wherein X represents S or O, and R represents hydrogen, C₁₋₆-alkyl, C₃₋₈-cycloalkyl, aryl or aralkyl, each aryl or aralkyl being optionally further substituted with one or more C₁₋₄-alkyl groups and/or halogen atoms,

the process comprises the asymmetric hydrogenation of a compound of formula:



wherein X and R are as defined above,

in the presence of a transition metal complex of a chiral bidentate phosphine ligand, that is stabilizing, and, optionally, a base., the transition metal complex of the chiral bidentate phosphine ligand comprises at least one further stabilizing ligand that is selected from the group consisting of 1,5-cyclooctadiene and p-cymene, and optionally, a base.

Claim 16 (Cancelled).

Claim 17 (Currently Amended): ~~The process of claim 1, wherein A process for~~
the preparation of a chiral compound of formula:



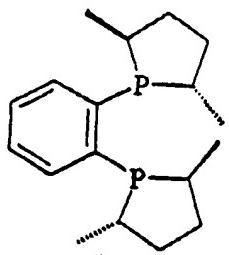
wherein X represents S or O, and R represents hydrogen, C₁₋₆-alkyl, C₃₋₈-cycloalkyl, aryl or aralkyl, each aryl or aralkyl being optionally further substituted with one or more C₁₋₄-alkyl groups and/or halogen atoms,

the process comprises the asymmetric hydrogenation of a compound of formula:

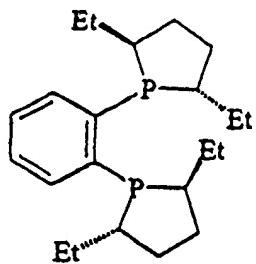


wherein X and R are as defined above,

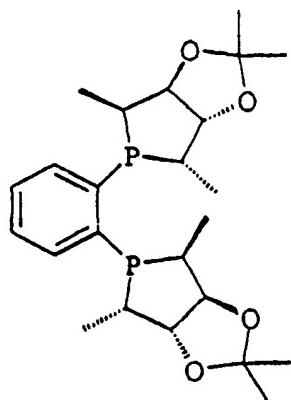
in the presence of a transition metal complex of a chiral bidentate phosphine ligand, that is stabilizing, and, optionally, a base. the catalyst is prepared by mixing a transition metal complex of the formula [Rh(cod)₂]⁺BF₄⁻ with a chiral bidentate phosphine selected from the group consisting of (S,S)-Me-DuPhos of formula:



(S,S)-Et-DuPhos of formula:

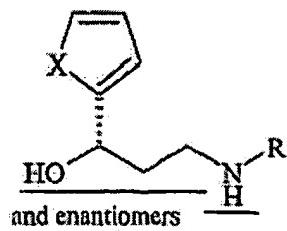


and (S,S,S,S)-Me-KetalPhos of formula:



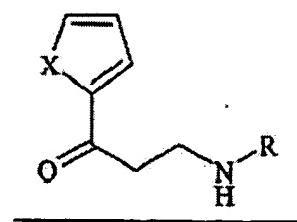
and, optionally, a base.

Claim 18 (Currently Amended): ~~The process of claim 1, wherein A process for~~
the preparation of a chiral compound of formula:



wherein X represents S or O, and R represents hydrogen, C₁₋₆-alkyl, C₃₋₈-cycloalkyl, aryl or aralkyl, each aryl or aralkyl being optionally further substituted with one or more C₁₋₄-alkyl groups and/or halogen atoms,

the process comprises the asymmetric hydrogenation of a compound of formula:



wherein X and R are as defined above,

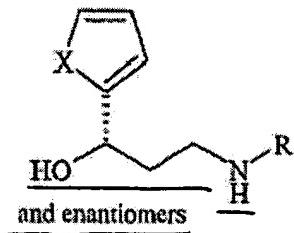
in the presence of a transition metal complex of a chiral bidentate phosphine ligand, that is stabilizing, and,

optionally, a base., the base is a hydroxide, a methanolate or an ethanolate of lithium, sodium or potassium or a mixture of said bases.

Claim 19 (Previously Presented): The process of claim 11, wherein the hydrogen pressure during the reaction is in the range of 10 to 30 bar.

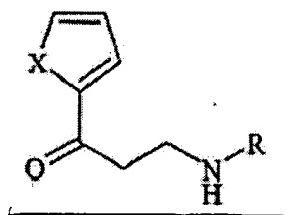
Claim 20 (Cancelled).

Claim 21 (Currently Amended): ~~The process of claim 20, wherein~~ A process for the preparation of a chiral compound of formula:



wherein X represents S or O, and R represents hydrogen, C₁₋₆-alkyl, C₃₋₈-cycloalkyl, aryl or aralkyl, each aryl or aralkyl being optionally further substituted with one or more C₁₋₄-alkyl groups and/or halogen atoms,

the process comprises the asymmetric hydrogenation of a compound of formula:



wherein X and R are as defined above,

in the presence of a transition metal complex of a chiral bidentate phosphine ligand, that is stabilizing, and,

optionally, a base.

the hydrogen pressure during the reaction is in the range of 10 to 30 bar.

Claim 22 (Cancelled).

Claim 23 (Cancelled).